NOTE V.

REMARKS ON CERTAIN AMERICAN DIPTERA IN THE LEYDEN MUSEUM AND DESCRIPTION OF NINE NEW SPECIES.

BY

F. M. VAN DER WULP.

Having been occupied of late with the determination of a large number of Diptera from North- and South-America, I have also examined the Diptera from these parts of the world, which are in the Leyden Museum. Some of them, which were already described, have given me occasion for making certain remarks on the synonymy etc., whilst a few appear to be hitherto undescribed. The following pages contain the results of my researches.

1. *Anthrax Halcyon*, Say.

Say, Long's exped. App. 371. 1. — Wied. Auss. Zweifl. I. 288. 44; pl. 3, f. 6. — Macq. Dipt. ex. II. 1. 68. 39; pl. 19, f. 6. — O. Sack. West. Dipt. 239.

In the Leyden Museum there are two quite similar male specimens from Arizona in North-America (Neumögen).

Wiedemann's description — I could not compare that of Say — agrees tolerably well; nevertheless I may not leave unnoticed certain differences. Firstly I find the scu-

tellum almost wholly testaceous, only with a black spot at the base (Wiedemann describes it as black with a tawny tip); furthermore the third posterior cell is not divided by a cross-vein as Wiedemann has figured it, but there is only at the curvation of the discoidal cell a short supernumerary vein, running almost in the same direction as the basal part of the longitudinal vein between the second and third posterior cell. According to Osten Sacken the third posterior cell in this species is not always completely bisected by a cross-vein, though it is the case in the majority of the individuals. Finally none of the other North-American species of the group to which *A. Halcyon* belongs (*A. Ceyx* Löw, *Demogorgon* Walk., *flaviceps* Löw, *fuliginosa* Löw, *Alpha* O. Sack.) can here be taken into consideration. Most of all it reminds one of *A. Alpha* O. Sack., but there the second submarginal cell is divided near its base in two parts by a small cross-vein, which does not exist in the above mentioned specimens.

2. *Anthrax melasoma*, n. sp.

Tota atra opaca; facie subprominente; antennarum articulo tertio coniformi, stylo breviusculo; alis cinereis, basi, costa fasciaque lata nigro-fuscis. — ♀ Long. 13.5 mm.

The specimen of which the pubescence is somewhat rubbed off is deep black and almost opaque, the scutellum more piceous. The front and face as well as the sides of the thorax and abdomen are clothed with black hairs; on the anterior part of the thorax and on the occiput there are remains of an erect dense grayish-yellow pubescence. In the middle of the front is a small impression; the face is a little prominent; the proboscis hardly reaches beyond the oral margin. Antennae black; the first joint beset with black hairs; the third joint oblong-conical, with a short style a little thickened at the end. Legs black, slender; hind tibiae with fine spines. Wings broad; their base and a broad crossband which anteriorly coalesces with it, blackish brown; the dark

colour of the base invades a little the basal cells; the dark crossband extends inwards halfway into these cells, runs outwards along the anterior margin down to the end of the marginal cell, reaches the forkcell and leaves the end of the three first posterior cells untouched; the middle of the fourth posterior cell and especially that of the discoidal cell is paler; the remaining hyaline part of the wings has a rather obscure gray tinge and the hind corner is even brownish.

A ♀ from Arizona in North-America (Neumögen).

I cannot bring this specimen to one of the many North-American species already described; it cannot even be arranged in one of the groups, into which O. Sacken has divided them (West. Dipt. 238).

3. *Anthrax hypomelas*, Macq.

Macq. Dipt. ex. II. 1. 76. 63.

A female specimen from Arizona in North-America (Neumögen) belongs, in my opinion, to this species. Though it is not in a very perfect state, it quite evidently shows the black hairs on the sides of the second and third abdominal segments, which prevents me to regard it as *A. molitor* Löw (Dipt. Amer. Sept. Cent. VIII. 42), the description of which in other points agrees tolerably well, but in that species the black hairs are found on the fifth and sixth segments. The hind tibiae are beset on the outside with many recumbent bristles, a character common to *A. molitor* and a few allied species. The radial vein has at its angulous base a small recurrent vein, such as is also to be found in certain individuals of our indigenous *A. hottentotta* L., with which the nervation of the wings generally agrees.

In the Leyden Museum there is also a male specimen from the same locality and very similar to the foregoing female; however it is considerably smaller (it measures no more than 7 mm., whilst *A. hypomelas* has a length of 12 mm.);

the legs are not black but testaceous, and the face and occiput are clothed with white hairs. I cannot bring it to any of the described North-American species with hyaline wings; it seems to agree most with *A. mucorea* Löw (Cent. VIII. 48), but of this the legs are likewise black, though covered with a pale tomentum, and the upper-arm of the second submarginal cell is said to terminate almost in the tip of the wing, which is not the case in my specimen.

4. *Anthrax festiva*, Phil.

Philippi, Verh. zool. bot. Ges. Wien, XV (1865). 668. 16.
Two male specimens from Chili (Dohrn).

The description given by Philippi especially agrees with one of these individuals. The other differs in some measure by the darker coloured scutellum and the greater extension of the brown margin at the costa of the wing, which still enters into the radial cell (of which only the enlarged end remains hyaline) and which also occupies the upper basal cell till a little beyond the medial cross-vein; moreover some of the cross-veins show an indication of a dark margin. As the specimen does not show any other difference, I take it merely for a dark variety.

5. *Diogmites rufescens*, Macq.

Dasypogon rufescens, Macq. Suites à Buffon, Dipt. I. 295. 8.

Two female specimens from Arizona in North-America (Neumögen).

Macquart's description agrees very well with these specimens, at least if we admit that he has overlooked the spur at the end of the front-tibiae, for he has classed the species in the group where the spur is absent. I am still more inclined to hold this opinion, because Baron Osten Sacken (Cat. of the Dipt. of N. Amer. p. 72) has on the same ground placed *Dasypogon rufescens* in the genus

Diogmites. The particular design on the abdomen is more especially clearly indicated by Macquart: on both sides of the second and following segments of the abdomen there is a whitish dust, which in front is limited by a black oblique patch; in one of the two specimens this design is still visible; in the other, which in all other respects entirely agrees with it, it is effaced.

Osten Sacken (l. c.) holds this species, although doubtfully, to be a synonym of *Diogmites discolor* Löw (Dipt. Amer. sept. Cent. VII. 37). Indeed both species appear to be nearly allied; however there are points of difference, and certainly the two specimens I have before me cannot be identified with *D. discolor*, which must be much darker, for Löw calls the abdomen black in ♂ and dark brown in ♀, whilst in both my specimens the ground-colour of the abdomen is tawny and Macquart, in his description of *Das. rufescens*, merely says: »abdomen testacé" without making mention of the sex. According to Löw the palpi of *D. discolor* are provided with black hairs: in the specimens of the Leyden Museum they are on the contrary beset with fulvous hairs (Macquart says nothing of the palps). Finally the wings of *discolor* are cinereous or dark cinereous at the tip and the posterior margin: in my specimens there is but a feeble trace of grayish tinge at the tip, whilst Macquart says: »ailes presque hyalines."

6. *Mallophora nigritarsis*, Fabr.

Dasypogon nigritarsis, Fabr. Syst. Antl. 168. 18. — *Asilus* ead., Wied. Dipt. ex. I. 208. 46; id. Auss. Zweifl. I. 479. 84. — *Mallophora* ead., Macq. Dipt. ex. I. 2. 86. 4. — Schin. Verh. zool. bot. Ges. Wien, XVII (1867). 386. 66.

In the collections of the Leyden Museum there are four male specimens and a single female from Brazil (Bescke), in my own collection two males, one of them labelled »Suriname". In most respects all these specimens agree

with Wiedemann's description; I must however observe that not only of the black coloured hind-tarsi, but also of the other tarsi (which are rufous with hairs of the same colour and black bristles), all the joints are very short and broad. The antennae are slender; the antennal bristle is longer than the third joint. Wiedemann calls the hairs of the palpi fox-red: in all the specimens I find them black, which, according to Schiner, also occurs in the typical specimens of the Vienna Museum. Macquart sees a sexual difference in the colour of the hairs of the palpi and describes them as yellow in ♂, black in ♀, which however is contrary to my experience. I see nothing of the yellow hairstripe on the hind-tarsi, mentioned by Wiedemann.

7. *Erax rufinus*, Wied.

Asilus rufinus, Wied. Zool. Mag. III. 47. 8; id. Auss. Zweifl. I. 441. 25. — *Erax rufinus*, Schin. Verh. zool. bot. Ges. Wien, XVII (1867). 393. 84.

A male and two females from Brazil (Mus. Berol.).

The characters given by Wiedemann are present in these specimens. The antennae are pale reddish-yellow; the first joint is the longest, cylindrical and beset with black bristles, on the underside over the whole length, on the upperside only at the end; the second joint is short, and is also provided with black bristles; the third is not much longer, lanceolate, with a black dorsal stripe and a black endbristle, which is at least as long as the second and third joint together. The face is not broad and becomes narrower yet towards the vertex. I do not see the brownish colour in the middle of the metathorax, which Wiedemann mentions. The bristles of the thorax and of the legs are black. The mediastinal cell is blackish brown and forms a dark stripe along the costa; the upperarm of the cubital fork is at its base somewhat angulous, but in none of my specimens it has a recurrent vein.

8. *Volucella scutellata*, Macq.

Macq. Dipt. ex. II. 2. 25. 9; pl. 6, f. 2. — Blanchard in Gay, Hist. fis. y pol. de Chile, VII. 405. 1; pl. 4, f. 6.

A male from Chili (Dohrn).

Macquart's expression: »bord postérieur de l'écusson à six petits tubercules terminés chacun par une soie" is not quite exact; there are no bristles, but in reality six black spines, which are warty, thickened at their base and placed three by three on the margin. On account of this character the species approaches to the genus *Temnocera*; however the third joint of the antennae is hardly impressed in front. The yellow margins of the thorax are almost invisible, and the colour of the antennae is rather obscure testaceous.

9. *Eristalis bogotensis*, Macq.

Macq. Dipt. ex. II. 2. 52. 3.

In the Leyden Museum there is a ♂ of this species whereas I possess both sexes myself; they are all from the Argentine republic and were presented by Prof. Weyenbergh.

Macquart was only acquainted with the ♀; his description agrees with my female specimens, except an insignificant difference in the pattern of the abdomen, the yellow lateral spots of the second segment not being extended on the third, and the metallic band of the latter not being interrupted in the middle, but merely a little incised in front. In the ♂ the pilosity of the eyes is, as usual, longer and the yellow spots of the abdomen are larger and extend on the third segment.

10. *Eristalis quadraticornis*, Macq.

E. quadraticornis, Macq. Dipt. ex. II. 2. 31; pl. 20, f. 2. — Blanch. in Gay, Hist. fis. y pol. de Chile, VII. 406.

2. — *E. testaceiscutellatus*, Macq. Dipt. ex. Supp. 4. 138. 61; pl. 13, f. 2. — Blanch. l. c. 407. 3.

Two males and three females from Chili (Dohrn), the male specimens labelled »*testaceiscutellatus*".

Both species, *quadraticornis* and *testaceiscutellatus*, are closely allied; of the former only the ♀ is known, of the latter only the ♂. I consider them without hesitation as the two sexes of the same species. By its small size and its stature it much resembles our *E. sepulcralis*; it is however distinguished by the yellow scutellum, which only shows two black spots placed one on each side. Of the hind legs the femora are rather thick, the tibiae curved and the first joint of the tarsus swollen.

11. *Dolichogyna fasciata*, Macq.

Macq. Dipt. ex. II. 2. 66. 1; pl. 12, f. 1. — Blanch. in Gay, Hist. fis. y pol. de Chile, VII. 408. 1; pl. 4, f. 8. — Phil. Verh. zool. bot. Ges. Wien, XV (1865). 744.

A ♀ from Chili (Dohrn).

Both the figures cited are unexact with reference to the yellow pattern of the abdomen, of which Macquart's description gives a better idea. Moreover in Macquart's figure the wings are, as usual in his drawings, of a disproportionally large size. In that of Blanchard the very broad head with protuberating eyes gives a strange aspect; the yellow bands on the thorax are wanting and in the nervation of the wings the subcostal cell is represented closed instead of open at the end.

12. *Syrphus calceolatus*, Macq.

Macq. Dipt. ex. II. 2. 91. 8; pl. 16, f. 1. — Blanch. in Gay, Hist. fis. y pol. de Chile, VII. 411. 6.

Both sexes from Chili (Dohrn).

By its conical projecting face this small species shows a certain affinity to the genera *Melithreptus*, *Mesograpta*

and *Allograpta*, but on account of the abdomen, which is evidently broader than the thorax, it must remain in the genus *Syrphus*.

13. *Jurinia nigriventris*, n. sp.

Cinerea; capite pallido; antennis sordide rufis, articulo tertio nigricante; palpis rufis, in apice subdilatatis; abdomine nigro nitido; pedibus nigris; calyptris alisque dilute brunneis. — ♀ long. 13 mm.

Face perpendicular, almost conically projecting at the oral margin and together with the cheeks and jaws of a pale grayish yellow with brownish reflexion. On both sides one large bristle and some smaller ones are placed a little above the mouth. Front cinereous, with a narrow ferrugineous band, which is somewhat dilated anteriorly; the frontal bristles not very numerous but strong; occiput with a rough yellowish pilosity and the usual crown of black bristles Antennae sordid rufous; the third joint ovate, blackish at least on the fore-side and at the tip; arista black. Palpi ferrugineous, a little thickened near the end. Thorax and scutellum with a dense cinereous dust; at the anterior extremity of the thorax an indication of black stripes; the bristles on the hind part of the thorax and at the hind border of the scutellum strong and of considerable length. Abdomen convex, black, shining, on the last segment a lateral silvery spot, with a somewhat yellowish reflexion; second segment without macrochetae; at the margin of the third segment strong ones; the last segment with a dense black pilosity and numerous spines; venter in the middle with numerous thick, rather blunt, spiny bristles. Legs black; the femora and especially the tibiae with many long and strong bristles. Calyptrae and wings grayish brown; veins blackish; discal vein curved with an acute angle; discal cross-vein slightly undulated.

A female specimen from Chili (Dohrn). My own collection contains another, completely similar, from the Ar-

gentine republic, sent to me by Prof. Weyenbergh in Cordova.

The species is closely allied to *J. bicolor* Wied. (Auss. Zweifl. II. 282. 3), and I would have identified it with this, had not Wiedemann mentioned a pattern on the thorax, of which hardly anything is visible in my specimens, though they are in general well preserved. He moreover describes the anus as being a little transparent and reddish.

14. *Jurinia nitida*, n. sp.

Nigra nitida; capite pallescente sericeo; fronte antennis pedibusque nigris; palpis rufis subdilatatis curvatis; alis dilute brunnescentibus, ad basin rufis. — ♀ long. 15.5 mm.

Black, shining. Head sericeous, pale yellow; face perpendicular; oral margin somewhat prominent, on both sides with one great and several shorter bristles; the front black; its middle band opaque, split up posteriorly, its lateral borders shining; frontal bristles strong; occiput with a dense yellowish pilosity and a crown of black bristles. Antennae black; the second joint rather thin; the third one enlarged, half as long as the second, truncated at the end; arista thickened till close to the tip. Palpi rufous, curved, a little thickened towards the end. Abdomen convex, without any gray dust; macrochetae at the hind-border of the second and third segment; those of the second recumbent, those of the third erect and more spinous; venter in the middle of the segments with strong bristles. Legs black, on the underside of the front-femora and on the outside of the tibiae several bristles. Calyptrae and base of the wings yellowish-rufous, this colour reaching along the costa down to the middle of the wings; the remaining part of the wing with a brownish gray tinge; veins fuscous, in the basal part of the wing testaceous; curvation of the discal vein with nearly a right angle; apical cross-vein curved, discal cross-vein almost straight.

A ♀ from Arizona (Neumögen).

15. *Echinomyia immaculata*, Macq.

Macq. Dipt. ex. Supp. 4. 169. 6; pl. 15, f. 8.

A ♂ from Arizona (Neumögen).

I bring it to this species, as the description of Macquart can in all respects be applied to it. The difference of native country (Macquart mentions it as being a native of Brazil) could however be a reason for doubt.

The face has a distinct yellowish red reflexion, especially at the oral margin; the cheeks are without bristles; the palpi are very slender; the third joint of the antennae is about as long as the second.

16. *Nemoraea erythropyga*, n. sp.

Nigra; facie, antennis pro parte majore, abdominisque segmento quarto rufis; thorace striis quatuor griseis; pedibus piceis; alarum nervo transversali medio infuscato. — ♂ long. 11 mm.

The hairy eyes, the facial ridges (the lower part excepted) without bristles, the broad cheeks and jaws, the third antennal joint which is not longer than the second, the ovate abdomen and the discal vein which is not prolonged beyond its curvation, bring this species to the genus *Nemoraea*.

Face and cheeks sordid rufous; front much narrowed towards the vertex, blackish, only somewhat lighter at the orbits; on both sides of the root of the antennae a rounded black spot; the lower frontal bristles not descending beyond this spot. Eyes with yellowish-gray pilosity; oral bristles ascending along the facial ridges no further than the tip of the antennae; the cheeks also beset with many bristles. Antennae ferrugineous, reaching to the middle of the face; the two basal joints with short bristles on the upperside; the second joint elongated; the third as long as the second, a little enlarged and darkbrown towards the end; arista black, thickened till about the middle. Palpi black. Thorax black, on the upperside with four light-gray lon-

gitudinal stripes, those on the outside broader and forming spots; pleurae on the foreside sordid fulvous; there is a black pilosity on the whole thorax; long bristles are present on the light stripes and also on the hind part and on both sides. Scutellum black, covered with gray dust and beset with black hairs and a few long bristles laterally and on the hind margin. Abdomen oblong-ovate, black; the second and third segments with a gray reflexion, which forms, according to the light, either lateral spots or an anterior margin on the segments; macrochetae at the hindborder of the segments, on the third segment also in the middle, and on the fourth spread over the whole surface. Legs (in comparison to other species of this genus) long and slender, piceous; the coxae and base of the femora rather fulvous; femora with regularly placed, tibiae with more dispersed bristles; ungues and pulvilli long. Calyptrae dark gray with yellowish margin. Wings with a gray tinge; the apical cross-vein as well as the discal cross-vein curved; the latter joining the apical cell at three fourths of its length; medial cross-vein placed in an oblique direction and bordered with a blackish shadow.

A ♂ from Chili (Dohrn).

17. *Belvosia leucopyga*, n. sp.

Nigra; capite griseo-albo; fronte nigricante, in ♂ postice attenuato; vitta frontali rufescente; thorace antice albido-pollinoso, substriato; scutella piceo (♂) vel obscure rufo (♀); abdominis segmento ultimo albescente; antennis pedibusque nigris; palpis ex rufo fuscis; alis infuscatis. — ♂♀ 12 mm.

Head at least as broad as the thorax; face and cheeks grayish white; front blackish, in ♂ considerably narrowed towards the vertex and here hardly occupying a fourth part of the head; in ♀ the front broader, occupying a third part of the head on the vertex; frontal band obscure rufous, rather narrow; frontal bristles moderate, descending

on both sides in a single row till below the root of the antennae; facial ridges less prominent than in *B. bifasciata*, beset with bristles, which ascend till the middle of the face; occiput with a dense grayish pilosity. Antennae black; the second joint rather short; the third at least three times as long as the second; arista thickened on the basal half. Palpi blackish brown, ferrugineous near the tip. Thorax black, with a whitish dust anteriorly and an indication of black longitudinal stripes; scutellum in ♂ piceous, in ♀ obscure rufous. Abdomen black; the fourth segment whitish, the anus black; macrochetae all recumbent, at the hind-border of the third segment some of them thick and spinous. Legs black, with numerous bristles; on the underside of the front-femora and the outside of the front tibiae the bristles are regularly placed; at the outside of the middle tibiae and the underside of the hind-femora some bristles of particular length; hind-tibiae with numerous bristles on the outside, which however not are placed frangelike. Ungues ferrugineous with a black tip and in ♂ stouter and surrounded by some bristles as is also the case with the ochraceous pulvilli. Wings and calyptrae darkbrown; the nervation agrees with that of *B. bifasciata*.

A single pair from Brazil (Bescke).

This species seems to be nearly allied to *B. analis* Macq. (Dipt. ex. Supp. 1. 460. 2; pl. 14, f. 4), which is however smaller and in which the basal joints of the antennae are testaceous.

18. *Masicera insignis*, n. sp.

Cinerea; antennis, striis thoracis quatuor, abdominis segmento primo, segmentorum 2—4 limbo postico, linea dorsali pedibusque nigris; palpis testaceis; thoracis stria media et scutelli apice rufescentibus; abdominis segmento ultimo limbo antico flavo. — ♂ long. 8.5 mm.

On account of the naked eyes, the absence of bristles along the facial ridges, the situation of the oral bristles just

at the margin, the elongate third joint of the antennae, the broad ovate abdomen and the discal vein which is not continued beyond its curvation, I bring this species to the genus *Masicera*.

Head blackish with a silvery whitish reflexion; front narrowed towards the vertex; the middle band narrow, only distinct by the absence of white reflexion; frontal bristles on both sides in a double row and descending till a little beneath the second joint of the antennae; face perpendicular; oral margin not projecting and with a reddish tint; behind the large oral bristle several shorter ones; occiput with gray pilosity and a crown of black bristles. Antennae black, a little shorter than the face; the basal joints with bristles on the upperside; third joint at least three times as long as the second; arista thickened as far as the middle. Palpi testaceous. Thorax on the upperside cinereous, with four black stripes along the whole length; the medial interstice grayish red, the lateral ones with white dust; pleurae and breast black; scutellum grayish red; the lateral and posterior parts of the thorax and the hind margin of the scutellum beset with long bristles. Abdomen ovate, light gray; the first segment, a dorsal stripe, the hind margin of the second and third segments and the anus black and somewhat shining; the black margin of the medial segments on both sides enlarged in a triangle; the anterior part of the fourth segment pure yellow till beyond the middle, the remaining part black; both these colours strongly separated; the yellow part divided by a black line, which is the continuation of the dorsal stripe; macrochetae of the medial segments only at the hind margin. Legs black; middle tibiae with several long bristles; hind tibiae on the outside fringed with bristles; ungues and pulvilli rather long. Calyptrae and wings hardly tinged with grayish; no costal spine; apical cell opened at some distance from the wing tip; apical cross-vein almost straight; discal cross-vein hardly curved and joining the apical cell on two thirds of its length.

A well preserved male specimen and another of which the abdomen is lost, both from Chili (Dohrn).

19. *Phrissopoda splendens*, Macq.

Macq. Dipt. ex. II. 3. 96. 1; pl. 11, f. 3. — Blanch. in Gay, Hist. fis. y pol. de Chile, VII. 427. 1; pl. 5, f. 3.

A ♂ from Chili (Dohrn).

Neither Macquart's figure nor that of Blanchard gives a clear idea of this insect. In the latter the whole body is much too broad and the abdomen at the base is incorrectly represented broader than the thorax; the legs on the contrary are too thin and the hind tibiae not curved; finally the apical cell is erroneously represented as closed almost at the tip of the wing. The figure of Macquart is still more defective; it is quite unnaturally coloured; the form is also too broad, and in the separate figure of the head the arista is represented as plumose down to the end. It seems as if Macquart, when making the drawing, did not look at the insect, but merely kept in mind the characters, which he had formerly attributed to the genus, for he has indicated *Phrissopoda* as principally differing from *Sarcophaga* by a broader body and the plumosity of the entire arista. I do not know in how far this may be true for *Phr. praeceps* Wied., which he considers as the type of the genus (Suit. à Buff. Dipt. II. p. 222); but certainly *Phr. splendens* is not broader than most other Sarcophaginae, and its arista is naked at the end. In almost all respects it shows a remarkable resemblance with the genus *Cynomyia*, of which it is only distinct by the more hairy legs, the incrassated femora and the curved hind tibiae. The white dorsal stripes of the thorax are not continued behind the suture.

20. *Sarcophaga chlorogaster*, Wied.

Sarcophaga chlorogaster, Wied. Auss. Zweifl. II. 359.

9. — *Sarconesia* ead., Bigot, Ann. soc. ent. France, 3me série, V. 301; pl. 7, f. 5.

A female specimen from Chili (Dohrn).

I cannot find any valid reason for a generical separation of this species; it shows all the characters of *Sarcophaga;* the metallic colour of the abdomen being the only difference.

21. *Sarcophaga rufipalpis*, Macq.

Macq. Dipt. ex. II. 3. 102. 11.

A female specimen from Curaçao (Rev. Father Jansen).

Though Macquart indicates Brazil as its native country, I believe that it is indeed the same species which I have before me, the description agreeing perfectly, with the only exception that the femora are said to be testaceous on the outside, whilst in my specimen, which however is not very well preserved, the legs are altogether black.

22. *Sarcophaga chilensis*, Macq.

Macq. Dipt. ex. II. 3. 104. 15; pl. 11, f. 6. — Blanch. in Gay, Hist. fis. y pol. de Chile, VII. 429. 3.

Two females from Chili (Dohrn).

The species is closely allied to *S. quadrivittata* Macq. (Dipt. ex. II. 3. 102. 12; pl. 12, f. 4), but it is smaller and the anus is not so pure fulvous, but merely covered with a reddish yellow dust; at the basal part of the costa the wings show a yellowish tinge.

23. *Calliphora phacoptera*, n. sp.

Chalybea; thorace antice striis albis; capite nigro, griseo pollinoso; antennis, palpis, barba pedibusque nigris; calyptris fuscis albo-limbatis. — ♀ long. 10 mm.

Stature corresponding to that of our *C. erythrocephala*; the front a little narrower; the antennae shorter; the cheeks

and jaws more developed. Head black, covered by a whitish dust, the cheeks and orbits white. Antennae distinctly shorter than the face, black with grayish dust; arista long, thickened at the basal half and plumose along two thirds of its length. Proboscis and palpi black. Thorax, scutellum and abdomen steel-blue; on the thorax five whitish longitudinal stripes, which are almost effaced behind the suture; on both sides of the two first segments of the abdomen a whitish dust. Legs black, the femora more or less steel-blue. Calyptrae darkbrown, with a white margin. Wings hyaline with a grayish tinge; nervation similar to that of *C. erythrocephala*; the apical cell however being wider open and the medial cross-vein a little nearer to the base of the wing, before the middle of the discal cell.

A ♀ from Chili in the Leyden Museum; it has been received from Dr. C. A. Dohrn, under the name of *C. phacoptera* Ph.; however as far as I know, the species is as yet nowhere described.

24. *Cyrtoneura stabulans*, Fall.

Musca stabulans, Fall. Musc. 52. 32. — Meig. Syst. Beschr. V. 75. 42. — Zett. Ins. lapp. 660. 29. — *Cyrtoneura stabulans*, Macq. Suit. à Buff. Dipt. II. 277. 10. — Zett. Dipt. Scand. IV. 1354. 9. — Schin. Fn. austr. I. 597. — *Anthomyia cinerascens*, Wied. Zool. mag. I. 1. 79. 28. — *Cyrtoneura vicina*, Macq. Dipt. ex. II. 3. 157. 3. — Blanch. in Gay, Hist. fis. y pol. de Chile, VII. 437. 2.

A female specimen from Chili (Dohrn); it resembles in all respects our european individuals; only the discal cross-vein seems to be straighter.

According to Macquart and Blanchard, *C. vicina* differs from *C. stabulans* merely by the absence of the black dorsal stripe on the abdomen; but this stripe is not always visible in the european specimens; it is probably for this reason that Schiner makes no mention of it in his elaborate description. Upon such a vague distinction a separate species cannot be admitted.

C. stabulans seems to belong to those insects, which easily move their headquarters and follow man everywhere; usually we find it more in our houses than out of doors. Osten Sacken reckons it under the North-American species (see his Catalogue); Schiner (Dipt. Nov. Reise p. 304) mentions a specimen from Auckland, and according to Macquart (Dipt. ex. Supp. 4. 256) the Paris Museum contains specimens from Australia.

25. *Urophora diaphana*, n. sp.

Aeneo-nigra; capite, antennis; coxis anticis, genubus, tarsorumque articulis duobus basalibus rufis; abdominis basi flava diaphana; alis fasciis quatuor fuscis; prima basali; secunda nervum transversalem medium attingente; tertia et quarta ad costam conjunctis. — ♂ (?) long. 2 mm.

Metallic greenish black, shining. Head a little broader than the thorax, brownish red as are also the antennae, the proboscis and the palpi. Face short, enlarged towards the underside, impressed in the middle, projecting at the oral margin. Third joint of the antennae ovate; arista long, thin and straight. Abdomen attenuated towards the end; the two first segments reddish-yellow and transparent. Legs piceous; the front coxae, the knees and the two basal joints of the tarsi brownish red. Wings hyaline with four darkbrown cross-bands; the first close to the base, the second issuing from the mediastinal cell (at about half the length of the wing), striking along the medial cross-vein and dilated towards the hind border of the wing, the third band going obliquely over the discal cross-vein and at the costa coalescing with the fourth band, which forms a broad margin at the tip of the wing.

A single specimen (which I take to be a ♂ on account of the absence of the ovopositor) from the isle St. Martin, presented by Mr. Rijgersma.

26. *Heterochroa picta*, Schin.

Schiner, Dipt. Nov. Reise, 236. 16.

A ♀ from Chili (Dohrn). It agrees well enough with Schiner's description of the ♂ to allow of its identification with this species. The scutellum has a black spot on each side, which is a continuation of both lateral stripes of the thoracic dorsum.

In the genus *Heterochroa* the costal vein does not end, as is usual in the family of the Muscidae, at the orifice of one of the longitudinal veins at the wing tip, but it surrounds the whole hind-border of the wing, though becoming thinner beyond the cubital vein.

Schiner arranges this genus in the group of the Geomyzinae, and describes, besides the above mentioned species, still another which he names *H. bicolor*. The Leyden Museum contains a third species, which is from Chili as are both the others; although it is represented by a single female specimen, I will describe it, because it can easily be distinguished.

27. *Heterochroa pictipennis*, n. sp.

Ochracea; vitta frontali unica, vittis thoracis sex cum fasciis abdominis nigro-fuscis; femoribus annulo subapicali fusco; alis fusco- et albo variegatis, basi flavescente, nervis transversalibus colore fusco non obtectis; nervorum partibus in colore fusco situatis nigris et incrassatis. — ♀ long. 5 mm.

Ochraceous. Front with a narrow darkbrown longitudinal stripe, ending in a point before it reaches the antennae; face with a whitish reflexion, the ridges on both sides very narrowly margined with black. Second joint of the antennae with a rather long black bristle; the arista also black and provided with microscopic hairs (in *picta* it is more distinctly plumose). Thorax on the upperside with two distant black longitudinal stripes, not reaching the front margin, but continued backwards as a lateral border of the scutellum; on both sides a similar stripe from the shoulders down to the root of the wing, and on the under-

side moreover a shorter one above the middle-coxae. Anterior margin of the abdominal segments black or blackish brown. Legs pale ochraceous, with a brown ring before the tip of the femora. Wings much longer than the abdomen, yellowish at the base as far as the end of the subcostal vein (on about one third of the length of the wing), furthermore with a darkbrown and whitish pattern; whitish spots around both cross-veins also invading the cells above and beneath them; moreover there are two rounded whitish spots, connected together, in the centrum of the cubital cell and of the first posterior cell; there is another, somewhat trigonal one, in the second posterior cell, and finally a pair of semicircular ones at the end of the wing; the veins, as far as they traverse the dark pattern, are thickened and black; the postical vein reaches the wing border.

A ♀ from Chili (Dohrn).

The three species of the genus *Heterochroa* may be distinguished by the following characters: *H. picta* shows on the thoracic dorsum three black stripes; in *pictipennis* and *bicolor* there are but two, the intermediate one having disappeared; *bicolor* has the wings immaculate, almost hyaline, in both the others the wings have a brownish and whitish pattern. In *picta* the dark pattern covers the discal cross-vein; in *pictipennis* on the contrary this cross-vein lies in the hyaline or whitish part; moreover in *picta* the postical vein does not touch the wing border, whilst it is continued down to the end in both the other species.

The Hague, November 26th, 1881.